Light Emitting Diode (LED) Traffic Signal Survey Results

In October 1998, the California Energy Commission, Energy Efficiency Division conducted a survey of local governments. The survey (see Appendix I) was designed to gather information on: 1) the status of Light Emitting Diode (LED) traffic signal installations by local governments, 2) the experience that local governments have had with LEDs, 3) the main barriers to LED installation and 4) what the Energy Commission can do to overcome these barriers. This document will summarize the results of the survey. If you have questions or would like more information about LED traffic signals, please contact us:

California Energy Commission
Nonresidential Buildings Office
1516 Ninth Street, MS-26
Sacramento, CA 95814
Phone: (916) 654-4008, Fax: (916) 654-4304
Web page: www.energy.ca.gov/efficiency

Response Rate

A total of 498 surveys were mailed to cities and large suburban counties with significant urban populations. We received 298 responses (7 were duplicates), representing 284 cities and 7 counties. These numbers translate to 64 percent of the unique cities and counties responding to the survey.

The following table summarizes the survey results.

Group	# Communities Surveyed	# Returned	Return Rate	# Unique Communities Surveyed*	# Unique Communities Responding**	Unique Return Rate***
Cities	487	291	60%	446	284	64%
Counties	11	7	64%	11	7	64%
Total	498	298	60%	457	291	64%

* 39 cities received two surveys (one city received three). This column counts only one response from each city receiving more than one survey; i.e. 487 communities surveyed minus 41 duplicates equals 446 unique communities surveyed.

** 7 cities returned two surveys. This column counts only one response from each city returning more than one survey, i.e. 291 communities returning surveys minus 7 duplicates equals 284 unique communities responded.

*** "Unique Return Rate" is the percentage of unique communities responding in relation to unique communities surveyed.

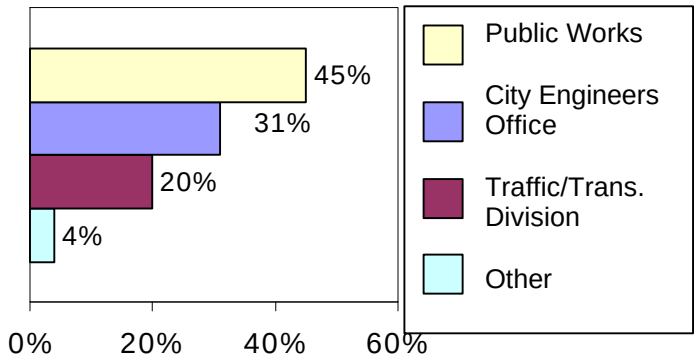
Survey Responses

1. Where do you work?

Question #1

The total 298 responses received were used to establish this data.

The majority of the local government staff responding to the survey are employed in the Public Works Department or the City Engineers Office.

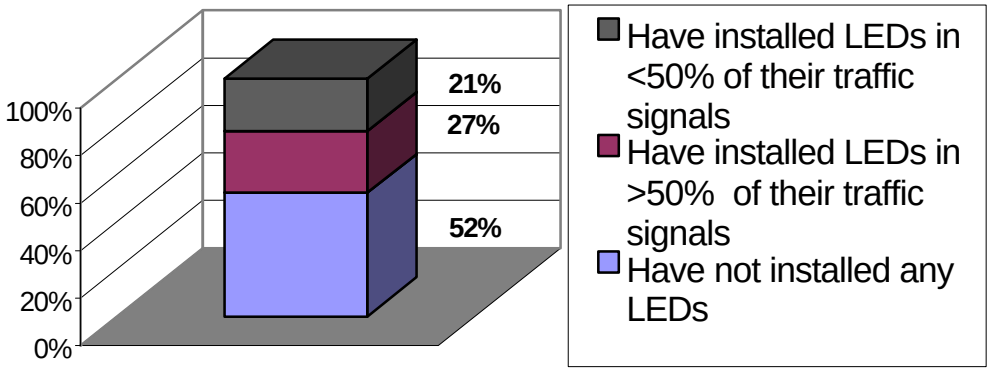


2. Do you already have LED traffic signals installed in your community or are you planning to install them before June 30, 1999?

Question #3

The total 292 responses received were used to establish this data.

Of those communities responding 48 percent have installed LED traffic signals while 52 percent have not.



27 percent have installed LEDs in greater than 50 percent of their traffic signals and 21 percent have installed LEDs in less than 50 percent of their traffic signals. These percentages include already installed LEDs as well as communities planning to install prior to June 30,1999. These statistics are taken from Question 4.

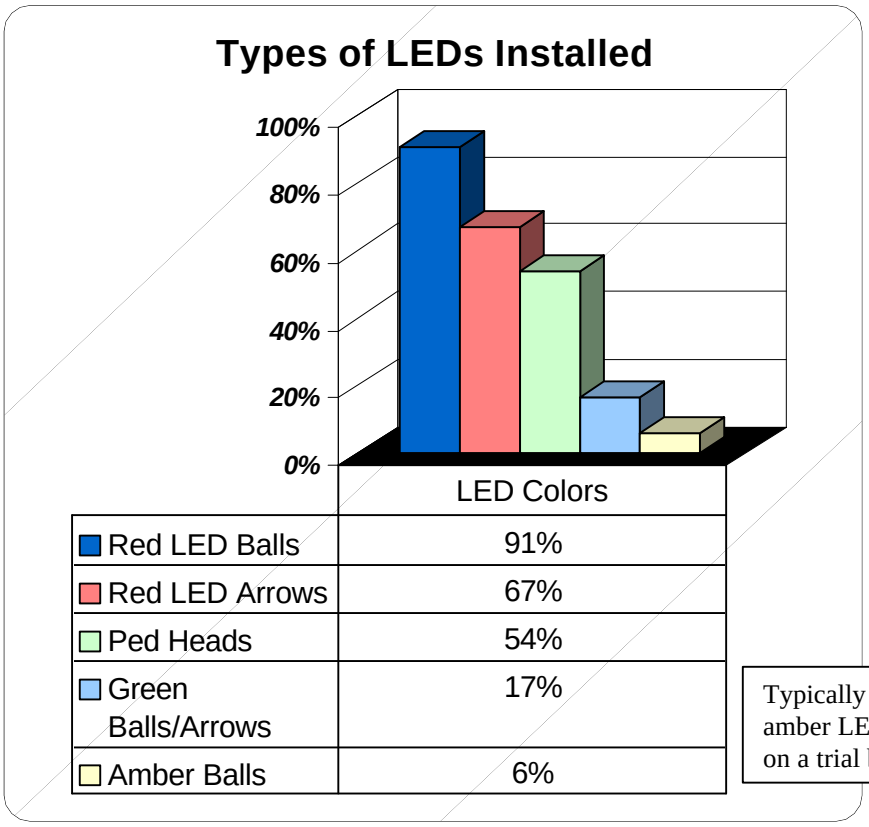
Survey Questions 4-10 Apply to Those Communities With LED Traffic Signals

3. For those communities with LED traffic signals, what types have been installed (or are in a planning stage for installation before June 30, 1999)?

Question #4

The total 138 responses received were used to establish this data.

Of the communities installing LED traffic signals since 1992, 91 percent have installed red balls, 67 percent have installed red arrows and 54 percent have installed red pedestrian heads. These numbers include those communities with plans to install LEDs before June 30, 1999. Those installing green balls and/or amber balls most commonly indicated that a small number were installed on a trial basis.



LED Colors	
Red LED Balls	91%
Red LED Arrows	67%
Ped Heads	54%
Green Balls/Arrows	17%
Amber Balls	6%

Typically green and amber LEDs are installed on a trial basis.

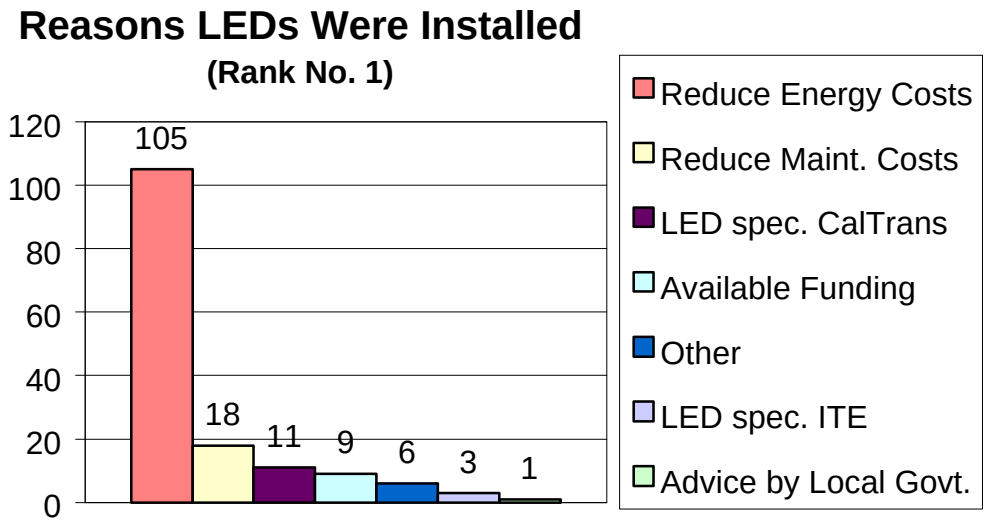
4. For those communities installing LED traffic signals, what were the most important reasons for the installations

Question #5

The total 133 responses received were used to establish this data.

By far the main reason for installing red LED traffic signals was to *reduce energy costs*. Other reasons include *the reduction of maintenance costs*, *availability of specifications* and *funding*.

Some respondents checked more than one box on the survey, so percentages in the graph below do not total 100 percent



5. For those communities installing LED traffic signals, what has been your experience?

Question #6

The total 78 responses received were used to establish this data.

The most common responses were: 1) the overall experience has been good (22 percent), 2) it is too early to form an opinion (18 percent), 3) observations of “low failure rate” (15 percent) and 4) reports of 25-60 percent reduction in energy costs (8 percent).

Following are some representative responses expressing community’s experiences with LED traffic signals. In some cases these comments have been paraphrased for clarity.

Overall a good experience:

- Our experience with LEDs has been good and maintenance free.
- Very positive. Great technology, especially the advancements in the past couple of years.
- We are still testing LEDs, but the overall experience has been good.

To early to tell:

- Still evaluating.
- We need additional time to evaluate.
- Limited experience. Thus far we have installed only on new signals. Budgeted in FY 98-99 for 50% replacement on red lamps.

Low failure rate:

- After 9 months we have had no failures.
- Excellent. Less than 10% degradation in 5 years on older LED units.
- LEDs work well as signal indications. Out of 513 LED units installed only 5-10 have required replacement in the first seven months.

6. For those communities installing LED traffic signals, has your project resulted in energy savings? If "yes", what percentage energy savings have you achieved?

Question #6a
The total 100 responses received were used to establish this data.

90 percent of those responding stated they have experienced energy savings. The range of energy savings reported is 25-60 percent with an average saving of 40 percent. None reported zero energy saving. The remaining 10 communities stated, almost exclusively, that they did not know if they had energy savings.

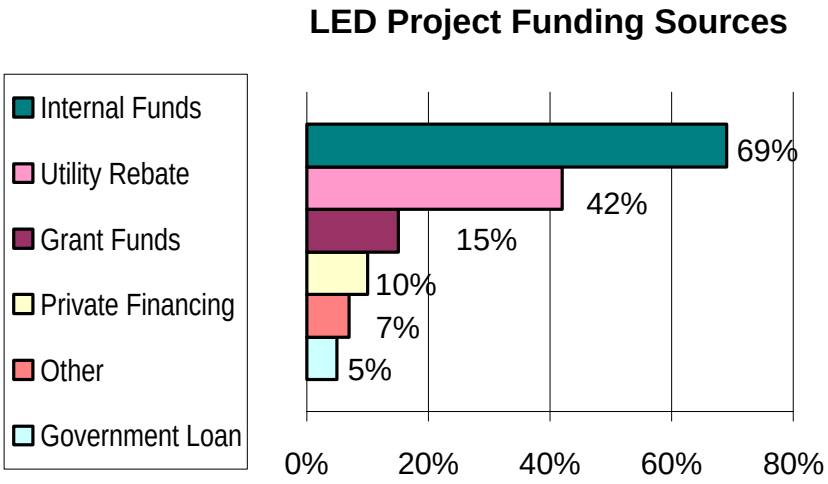
7. For those communities installing LED traffic signals, how did you fund (or plan to fund), your project?

Question #7
The total 123 responses received were used to establish this data.

69 percent of the respondents indicate that "internal funds" paid for all, or a portion, of the installation of LED traffic signals. 42 percent of the responses indicate that "utility rebates" were a source of funding (see table below).

Note: this question allowed for multiple responses so the graph below

indicates the "percentage of *responses*" as opposed to "percentage of *respondents*", therefore the percentage totals do not add up to 100%.



8. Now that you have installed LED traffic signals, what are your plans for retrofitting additional traffic signal, including converting all your red incandescent signals, pedestrian cross signals and/or the green and/or amber signals?

Question #8
The total 135 responses received were used to establish this data.

The most common response (46 percent) indicated that plans depend upon when the green and/or amber signals are improved and their price comes down. 35 percent have installation plans for installing all red and pedestrian head signals. 30 percent indicated they would wait until funds become available. (Some responses fit into multiple response categories therefore these percentages do not add up to 100 percent.)

Following are some representative responses concerning retrofit to *all* LED traffic signals. In some cases these comments have been paraphrased for clarity:

Plans for retrofitting green traffic signals:

- Green will be converted to LED when the price becomes more affordable.
- We would be interested in green and amber if approved specifications were available.
- Still looking for the right color for green ball and for prices to come down.

Plans for retrofitting all red traffic signals:

- I have proposed to retrofit all red balls, red arrows and pedrestrian modules with LED not later than December 1999.
- Our current plans are to retrofit only red indicators.
- We expect to replace 2,000 red balls and 1,000 pedestrian hand signals in the next three years.

Future plans for LED retrofit depends upon availability of funding:
- A few each year until done. Don't have the funds to do it in any one year.
- Need more funding, to change just red to LED est. cost is $720,000.00.
- Would like to do all of them if price per unit decreases and/or grant funding is available.

Comments indicating concerns regarding retrofitting additional traffic signals.
- Greens will be done when it becomes cost effective to do so.
- Existing pedestrian signals are low energy neon and it is not cost effective to replace them with LEDs.
- Amber balls may never be feasible because of short cycle time.
- We would like to install green LEDs when the cost comes down and the color is perfected.

9. Having retrofitted your communities LED traffic signals, how would you advise other local–governments considering installation?

Question #9
The total 122 responses received were used to establish this data.

35 percent of the responses recommended installation of LED traffic signals and 12 percent felt it was too early to determine whether benefits had been realized and therefore too early to give a recommendation. Cost considerations, financing and energy savings were also addressed.

Following are some representative responses given when asked what advice respondents would give those communities considering installation of LED traffic signals. In some cases these comments have been paraphrased for clarity:

Recommendations:
- At this point, I would highly recommend the installation of LEDs.
- Don’t wait! Savings are significant.
- There are no reasons to keep the incandescent.
- We will recommend its installation considering the savings.

Other statements:
- A real money saver IF you can afford the extra purchase cost.

- It would be in their best interest to have LEDs in their city/town. Because of the cost their savings on energy and maintenance.
- Prices have come down and reliability is at a point that it makes sense to convert reds at this time, the agency will have to look hard at greens, ambers, and pedestrians.
- Consider cost-effectiveness.

Comments reflecting concerns

- Contact a consultant or ITE. Do not just depend on one spec and do not just take advice of manufacturers or local agencies.
- Wait for Caltrans specs that are permanent.
- Wait until the failure rate is lower.
- Look at relationship between warranty period and financing period. Make sure it's carefully written to cover possibility of mass failures just in case.

10. As one of the communities in California that have installed LED traffic signals, can we list you as a contact for other cities and counties interested in LEDs?

See Appendix II for a list of 105 communities to contact for information and recommendations on LED traffic signals.

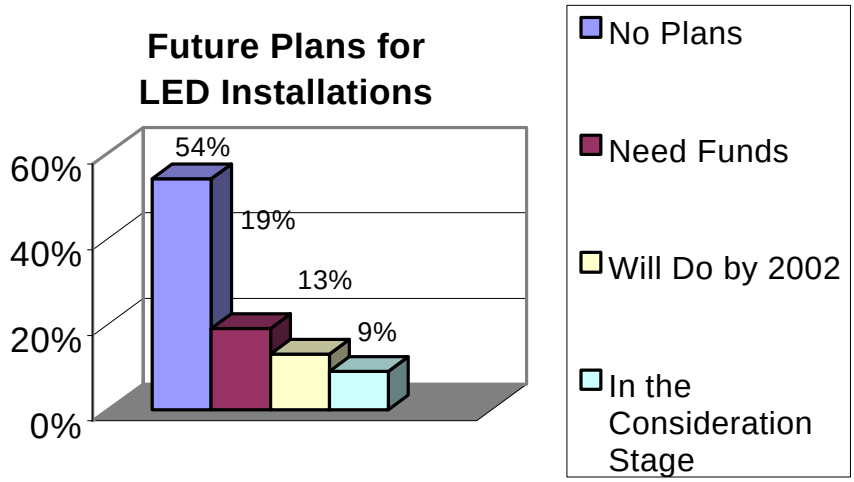
Questions 11—13 Apply to Those Communities Without LED Traffic Signals

Note: Less than 3 percent of all communities responding to the survey reported having three or less traffic signals.

11. For those who have not installed LED traffic signals, what are your future plans for installation?

Question #11
The total 134 responses received were used to establish this data.

54 percent of those communities responding, that have not installed LED traffic signals, state they have no current plans for installation. Other responses indicate: a need for funding, plans for installation by 2002, and considering LEDs.



12. For those communities that have not installed LEDs, what are the major obstacles to installing LED traffic signals?

Question #12

The total 133 responses received were used to establish this data.

Approximately 77 percent of the responses indicated cost/funding to be their major obstacle. Lesser responses included specific technical concerns.

Following are some representative responses given when asked what the major obstacles for installing LED traffic signals are. In some cases these comments have been paraphrased for clarity:

Cost/Funding

- Equipment/hardware cost/compatibility
- High cost of LEDs with higher priority being to upgrade controllers.
- Initial cost, material and labor.

Specifics Concerns

- Knowledge of the performance is still unknown.
- Equipment is not standard and requires a maintenance firm to carry a variety of replacement parts on every truck to immediately replace burnouts. Also there is a need to be convinced that LEDs will maintain consistent output brightness as they age.
- Need economic analysis to justify expenditure.
- There may also be liability issues involved if degradation occurs.
- Storage prior to installation: 1415 12" ball, 290 12" arrows, and 101 8" ball, all in boxes.

13. For those communities that have not installed LEDs, how can the California Energy Commission assist in overcoming obstacles?

Question #13

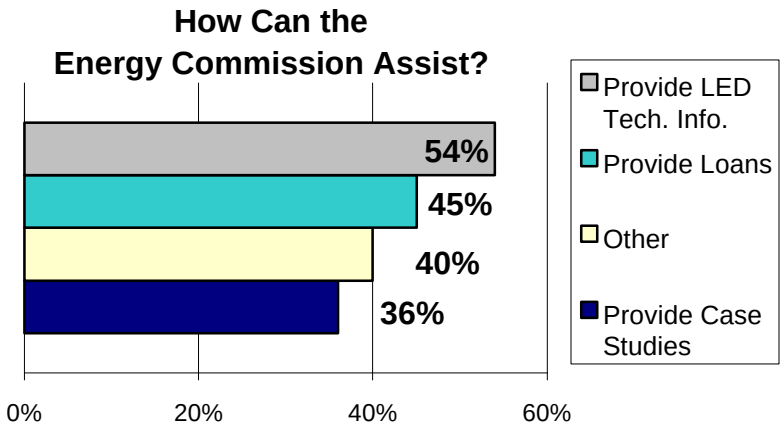
The total 125 responses received were used to establish this data.

54 percent indicated they would be interested in seeing technical information on LED traffic signals. 45 percent indicated they would welcome loans from the Energy Commission.

Other comments include:

- Provide grant assistance.
- Convince Caltrans to change to LEDs.
- Convince PG&E to assist through future energy savings (rebates).
- Provide case studies that permanent degradation will not develop over time at high temperatures.
- Convince the industry to standardize the equipment.

Respondents were allowed to check more than one box on the survey, so percentages in the graph below are the percentage of the 125 responses to Question 13 and therefore does not total 100 percent.



Questions 14—19 Apply to All Communities Responding to this Survey

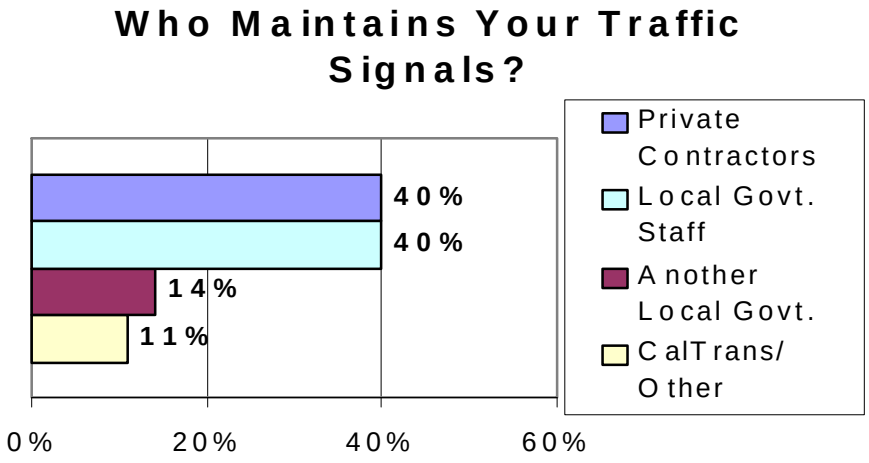
14. Who currently maintains your traffic signals

Question #14

The total 280 responses received were used to establish this data.

The two most common responses were using local government staff and/or private contractors. Caltrans was listed 26 times under "Other".

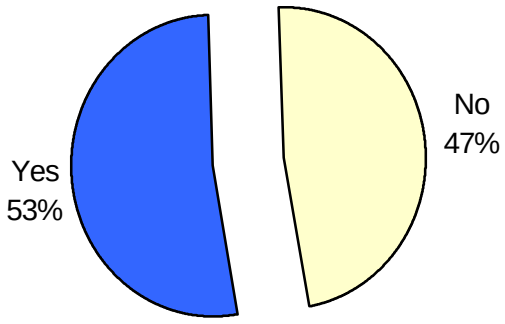
Again respondents were allowed to check more than one box on the survey, so percentages in the graph below are the percentage of the 280 responses to Question 14 and therefore will not total 100 percent.



15. The California Conservation Corps (CCC) is a state agency that trains its members to install projects in public facilities. Would you consider having the CCC retrofit your traffic signals to LEDs?

Question #15

The total 263 responses received were used to establish this data.



53 percent of those responding said they would consider using the CCC to install LEDs in their community.

Following are some comments from the survey expressing reasons why communities would not be interested in having the CCC retrofit their traffic signals to LED.

Retrofit of traffic signals is already complete.
Traffic signals are under CalTrans jurisdiction.
We have our own staff.
Decision is contingent upon cost/benefit of using the CCC.

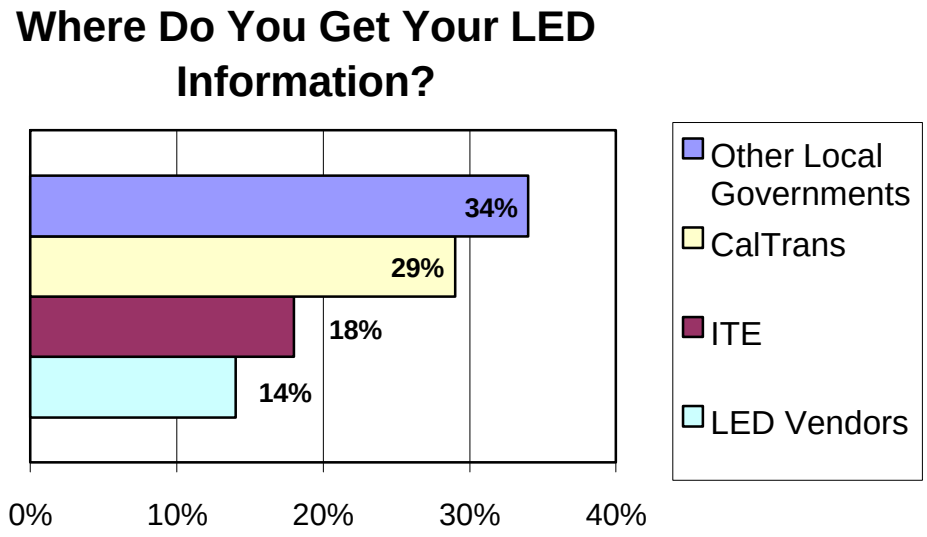
Might consider using CCC if liability and maintenance issues were addressed.
Need for more skilled labor.
Not sure they have proper training.
We are unfamiliar with the agency.

16. Where do you go for information on LED traffic signals?

Question #16
The total 271 responses received were used to establish this data.

The most common responses were: other local governments, Caltrans, Institute of Traffic Engineers and LED vendors and manufactures.

Respondents were allowed to check more than one box on the survey, so percentages in the graph below are the percentage of the 271 responses to Question 16 and therefore will not total 100 percent.



17. Do you currently meet with other local governments to discuss traffic signal issues?

Question #17
The total 278 responses received were used to establish this data.

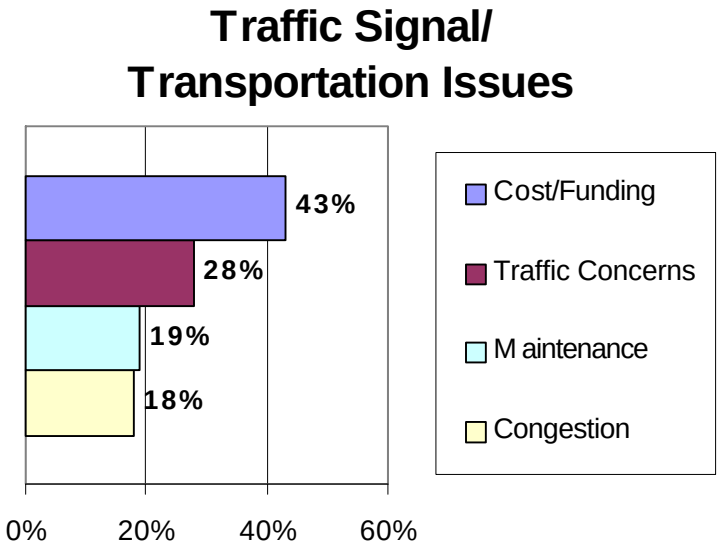
43 percent responded that they do meet with other local governments, while 57 percent stated they do not. For those meeting with other local governments, the most common groups listed were:

Institute of Traffic Engineering (ITE)
Orange County (OCTEC)
City Traffic Engineers (CTE)
Traffic Signal Association (TSA)
International Municipal Signal Association (IMSA)
San Diego Traffic Engineers Council (SANTEC).

18. What are the main traffic signal and transportation issues facing your local government?

Question #18
The total 229 responses received were used to establish this data.

The most common response was that cost/funding was the major issue facing local governments with regards to transportation and traffic signals. Traffic concerns, congestion, and road maintenance were other responses.



19. Give us your ideas and suggestions for other services for assistance that the Energy Commission can provide to help local governments.

Question #19
There were 93 suggestions given. Following are a few representative statements.

- Funding for energy conservation projects, identifying projects to potentially conserve energy.
- Promote rebate programs to help with funding
- Provide demonstrations, case studies etc. to city council to convince them to fund such projects.
- Require Caltrans to upgrade their signals to LEDs since most cities have to pay for energy costs when they share a Caltrans signal - yet Caltrans won't let us upgrade it to save us $$.
- Information about energy savings methods available.
- Information about possible funding mechanisms.
- Information on LED lights.
- Information on liability exposure if not replaced on a timely basis.
- Give advice to life of LED lights & liability exposure if not replaced on a timely basis
- Seminars on current LED technology, and the future of LEDs.
- Web site with documents and forms that assist with funding, spec.’s writing etc. when obtaining LED technical articles explaining "required" specs (color, luminance, viewing angle, temp, power factor, harmonic distortion) in layman terms.
- A newsletter would be interesting with notifications of tech reviews/training/product shows in the area.
- Maybe you can list some consultants/consortiums who can help
- We would like to get the low interest loans to retrofit. We would like to join with other cities on the application. We have about 20 signals to upgrade.

APPENDIX I

CALIFORNIA ENERGY COMMISSION
LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL SURVEY

(Please return this survey by November 30, 1998)

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1. Please check the box that best describes where you work? Check one.

❒ County Engineer's Office ❒ Public Works

❒ Traffic/Transportation Division/Dept. ❒ Other: _____

2. Name of the County that you serve:

_____

3. Do you already have LED traffic signals installed in your county <u>or</u> are you planning to install them before June 30, 1999)?

❒ <u>Yes, **GO TO QUESTION 4**</u> ❒ <u>No, **GO TO QUESTION 11**</u>

➡ Questions 4 to 10 are for counties who have or who are planning to install LED traffic signals before June 30, 1999. For those that have not installed any LED traffic signals or plan to install them after June 30, 1999, go to question 11.

4. Please indicate the type of LED traffic signals that have been installed or are planned for installation before June 30, 1999.

Traffic Signal Type	LED's? y/n	Year of installation	Percent installed (if all installed indicate 100%)
Red balls			
Red arrows			
Green balls			
Green arrows			
Amber balls			
Pedestrian signals			

5. Please rank the following reasons for installing red LED traffic signals, with "1" being your most important reason, "2" your next most important reason and so forth.

____ Reduce energy costs
____ Reduce maintenance costs
____ On the advice of a neighboring local government
____ Availability of approved national LED specifications from the Institute of Transportation Engineers (ITE)
____ Availability of approved LED specifications from the California Department of Transportation
____ Availability of funding
____ Other: _____

6. For those that have installed LED traffic signals, what has been your experience?

a. Has your project resulted in energy savings?

❒ Yes, we are spending about ____ % less for electricity annually.

❒ No, we are spending _____ % more for electricity annually.

7. How did you fund (or plan to fund) your LED traffic signal installations? If multiple funding sources used, indicate the percentage contribution of each.

Funding Source	Percent of Total Project Cost
Internal funds	
Grant (such as from the state or federal government)	
Private financing, specify source:	
Government loan	
Utility rebate	
Other, specify source:	

8. What are your plans for retrofitting additional traffic signals to LEDs, including converting all your red incandescent signals, pedestrian cross signals and/or the green and/or amber signals?

9. How would you advise other local governments considering installation of LED traffic signals?

10. Can we list you as a contact for other cities and counties interested in LEDs?

❒ Yes, contact person name and telephone number_____

❒ No

☛ **(GO TO QUESTION 14)**

➡ Questions 11-13 are for those counties that have **not** installed LED traffic signals **or** do not plan to install them before June 30, 1999. For those that have installed LED traffic signals or will install them by June 30, 1999, go to question 14.

11. For those answering "No" to Question 3, what are your plans for installing LED traffic signals?

12. What are the major obstacles to installing LED traffic signals?

13. How can the Energy Commission assist in overcoming these obstacles?

- ❒ Provide technical information on LEDs
- ❒ Provide case studies of successful projects
- ❒ Provide low interest loan financing
- ❒ Other: _____

☛ **(GO TO QUESTION 14)**

➡ This section is to be answered by everyone.

14. Who currently maintains your traffic signals?

- ❒ Our local government staff
- ❒ Private contractors
- ❒ A neighboring local government
- ❒ Other: _____

15. The California Conservation Corps is a state agency which trains its members to install projects in public facilities. Would you consider having the California Conservation Corps retrofit your traffic signals to LEDs?

- ❒ Yes
- ❒ No, If not why:_____

16. Please rank the following to indicate where you would go for information on LED traffic signals, with "1" being your first choice, "2" your second choice and so forth.

___	Other local governments	___	California Dept. of Transportation
___	Utilities	___	LED vendors and manufacturers
___	Institute of Transportation Engineers (ITE)	___	Internet web sites:_____ _____
___	Energy/traffic consultants	___	Other, specify: _____

17. Do you currently meet with other local governments to discuss traffic signal issues?

- ❒ Yes, name of group, contact person and telephone number: _____
- ❒ No

18. What are the main traffic signal and transportation issues facing your local government?

19. Please give us your ideas and suggestions for other services or assistance that we can provide to help local governments.

20. Please check any of the following boxes and we will send you the requested information. Please attach your business card or complete the following table.

- ❒ Results of this survey
- ❒ Energy Commission programs for local governments
- ❒ Energy Commission booklet on LED traffic signals, includes information on the LED technology, funding, LED specifications, local governments who have installed LED traffic signals, and manufacturers
- ❒ Funding programs (loans, grants) for LED traffic signals and other energy projects
- ❒ Notification of programs that affect local governments
- ❒ Notification of periodic meetings dealing on traffic signal issues and/or energy efficiency
- ❒ Electricity industry restructuring information
- ❒ Energy Project Management Handbooks: *How to Hire an Energy Services Company, How to Finance Public Sector Energy Efficiency Projects, How to Hire an Energy Auditor* and *Energy Accounting: A Key Tool in Managing Energy Costs*
- ❒ Information on the California Conservation Corps, including contact/phone number.
- ❒ Other: _____

Name **Title**	
Organization Name **Address**	
Telephone **Fax** **E-mail Address**	

THANK YOU VERY MUCH FOR TAKING THE TIME AND EFFORT TO COMPLETE THIS SURVEY.
Please fax it back to ((916) 654-4304) to Merry Bronson, California Energy Commission by ***NOVEMBER 30****.*

Appendix II

Contact Persons Within California Communities That Have Installed LED Traffic Signals

City	Contact	Phone Number	Extension
Alameda	Virendra Patel	(510) 748-4514	
Alameda Co.	Erik Dayton	(510) 610-5537	
Anaheim	Nathaniel Behura	(714) 765-5183	
Atwater	Dave Taylor	(209) 357-6334	
Bakersfield	Frank Yaun	(805) 326-3781	
Barstow	Kenneth Hutchings	(760) 256-3531	3217
Benicia	Michael Throne	(707) 746-4240	
Berkeley	Neal De Snoo	(510) 665-3486	
Beverly Hills	Ralph Winkeler	(310) 285-2477	
Brea	Warren Siecke	(714) 990-7666	
Burbank	Kang Kim	(818) 238-3974	
Campbell	Tony Rucker	(408) 364-2827	
Carlsbad	Heidi Heisterman	(760) 434-2937	
Chowchilla	Garold D. Giersch	(559) 673-5981	
Chula Vista	Ralph Leyva	(619) 691-5116	
Citrus Heights	Ted Moss	(925) 827-3200	
Clovis	Tim Barker	(209) 297-2565	
Concord	John Templeton	(925) 671-3129	
Corona	Steve Libring	(909) 736-2448	
Coronado	Mehran Sepehri	(619) 522-7387	
Corte Madera	Keith Linden	(415) 927-5057	
Culver City	Heustace Lewis	(310) 253-6433	
Danville	Nazanin Shakerin	(510) 314-3390	
Davis	Butch Breault	(530) 757-5674	
Dublin	Ginger Russell	(925) 833-6627	
El Cajon	Ed Kralikowski	(619) 441-1653	
El Centro	Wayne Walker	(760) 337-4505	
Encinitas	Chris Orozco	(760) 633-2842	
Fairfield	Bill Norvas	(707) 428-7403	
Fontana	Clyde Sweet	(909) 350-6600	
Foster City	Stan Workman	(650) 286-3285	
Fremont	Bob Vinn	(510) 494-4688	
Fresno	Tom Malmquist	(209) 498-1486	
Fullerton	Dave Langstaff	(714) 738-6858	
Gilroy	Kristi Abrams	(209) 498-1486	

Glendale	Wayne Ko	(818) 548-3960	
Hanford	Teresa Zack	(209) 585-2562	
Hayward	Jessy Pu	(510) 583-4783	
Hercules	Brent Salmi	(510) 799-8247	
Inglewood	Chuck Mai	(810) 412-5415	
Irvine	Richard Nelson	(949) 724-7642	
La Verne	L.D. Johnson	(909) 596-8741	
Lakewood	Max Withrow	(562) 866-2502	
Lancaster	Bob Weithofer	(805) 723-6048	
Lemon Grove	Ed Wimer	(619) 464-6934	
Livermore	Mark Anderson	(925) 373-5227	
Lodi	Paula Fernandex	(209) 333-6800	667
Long Beach	Bill Bradley	(562) 570-2762	
Lynwood	John C. Leichty	(310) 603-0220	
Manteca	David Vickers	(209) 825-2308	
Merced	Gordon Gray	(209) 285-6806	
Modesto	Bill Padilla	(209) 285-6806	
Monterey	Rich Deal	(831) 646-3920	
Mountain Valley	Dennis Belluomini	(650) 903-6311	
Murrieta	Dan Clark	(909) 698-1040	240
Newark	Jim Davis	(510) 790-7210	
Newport Beach	Rich Edmonston	(949) 644-3345	
Novato	Emmett Creason	(415) 897-4365	
Oakland	Scott Wentworth	(510) 615-5421	
Oceanside	Mike Beatty	(760) 966-7818	
Palm Desert	Mark Greenwood	(760) 776-6450	
Palm Springs	Barry Griffith	(760) 323-8167	
Palmdale	Ramana Chinnakotla	(805) 267-5336	
Paradise	Dennis Schmidt	(530) 872-6291	
Pasadena	Robert Gonzales	(626) 744-4158	
Piedmont	L. Rosenberg	(510) 420-3061	
Pleasanton	Robert Hudson	(925) 484-8040	
Pomona	Steve Moore	(909) 620-2279	
Rancho Cucamonga	Jim Harris	(909) 477-2740	2370
Rancho Mirage	Bruce Harry	(760) 770-3224	
Redlands	Ron Mutter	(909) 798-7655	
Richmond	Ken Nelson	(510) 231-3033	
Riverside	Fran Dunajski	(909) 782-5368	
Riverside Co.	J. R. Morgan	(909) 955-6815	
Rohnert Park	Matt Townsend	(707) 588-2245	
Roseville	Steve Seaton	(916) 774-5787	
Sacramento	Larry Goodale	(916) 433-6314	
Salinas	Jose A. Ampon	(831) 758-7439	

San Carlos	Parviz Mokhtari	(650) 802-4202	
San Clemente	Donald Rosensteel	(949) 361-8317	
San Diego	Ernest M. Shaffer	(619) 525-8653	
San Jose	Ron Northouse	(408) 277-3070	
San Juan Capistrano	Alan Oswald	(949) 443-6356	
San Leandro	Steve Lambardi	(510) 577-6023	
San Luis Obispo	Gary Keauney	(805) 781-7043	
San Luis Obispo	David Elliot	(805) 781-7209	
San Mateo	David Amaral	(650) 377-3326	
San Ramon	William Woods	(925) 275-2239	
Santa Cruz	Ron Marguez	(831) 429-3661	
Santa Maria	Tony Ferrari	(805) 925-0951	229
Santa Rosa	Charles A. Lachman	(707) 543-3883	
Stockton	Jun Masuoa	(209) 937-8534	
Suisun City	Otto Bertolero	(707) 421-7343	
Sunnyvale	Dennis Ng	(408) 730-7412	
Tullare	Bobby Dykes	(209) 685-2373	
Vacaville	Rod Moresco	(707) 449-6276	
Vallejo	James Gajkowski	(707) 648-4319	
Victorville	George Parmenter	(760) 246-6115	
Vista	Peter Struck	(760) 726-1340	1602
Walnut Creek	Rafat Raie	(925) 256-3529	
Westminster	Peter Mackpran	(714) 989-3311	217
Woodland	Bruce Pollard	(530) 661-5974	
Woodland	Bruce Pollard	(530) 661-5974	
Yorba Linda	Bernie W. Dennis	(714) 961-7170	